Contemporary Problems of Ecology 2016 vol.9 N5, pages 626-635

Some patterns of spatial-ontogenetic structure in populations of tuber orchids

Fardeeva M.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2016, Pleiades Publishing, Ltd.Population dynamics, density, and aggregation size of tuberoid orchids have been identified based on mapping, electronic maps constructed with “point processes,” and Ripley function and pair-correlation function. Discrete and discrete-continuous types of spatial structure dominate in populations in optimal ecological conditions. The bounded aggregations of levels I (radius 0.45–0.75 m) and II (radius 1.2–2.5 m) are formed at 3 to 7.5 m2. The spatial pattern depends on generative specimens which are related with the “group effect.” The microloci have full ontogenetic structure and may be regarded as elemental populations. They form larger aggregations of levels III and IV with random spatial distribution and continuous bounds. Aggregations of higher level are not formed under worse ecological conditions. Random spatial distribution and incomplete ontogenetic spectrum of microloci are indicators of critical population status.

http://dx.doi.org/10.1134/S199542551605005X

Keywords

aggregations, discrete and discrete–continuous types, microloci, Spatial–ontogenetic structure